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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,892	12/03/2001	Frank Herzel	7040-51	1547

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EXAMINER

KINKEAD, ARNOLD M

ART UNIT PAPER NUMBER

2817

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,892

Applicant(s)

HERZEL ET AL.

Examiner

Arnold M Kinkead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02-21-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-3 and 5-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-3 and 5-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s), _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Specification

1. The substitute specification filed 12-03-01 has not been entered because it does not conform to 37 CFR 1.125(b) because: it lacks a marked up copy and statement that substitute specification does not contain new matter.

The examiner did not find any new matter in a review of the disclosure submitted.

It is also noted that the specification originally filed was not in the standard US format , with the required headings, etc., but the Substitute Specification seems to correct this.

Priority

2. Receipt is acknowledged of 100 21 273.5 submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 5 June 1999. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

Oath/Declaration

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

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The oath or declaration is defective because: a claim for priority for foreign application Germany 10021273.5 must be reviewed as it was filed on the same day as the international application(PCT), 04-26-00. Please check and make appropriate corrections to the declaration if required.

Information Disclosure Statement

5. The information disclosure statement filed 12-03-01 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following lack proper antecedent basis:

In claim 1, line 11, " the controllable switching device"

In claim 5, line 2, " the controllable switching means"

(see claims 18, 20 and 22 for same problem).

The dependent claims are indefinite by their dependence from independent claim 1(as rejected above), ultimately.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1,8-11,33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuura (US 6,124,766) of record.

The reference by Matsuura discloses a VCO for an integrated PLL application (see figure 2, for the VCO as claimed in claim 1) with LC resonant circuit including varactor(25, with tune input T15, claim 10, and claim 11), capacitors(18,22), switching device (23) , for periodic switching, with control input(T16,17) and inductors in series(19 first inductor and 20 second inductor). It is to be noted that bipolar technology(BJT(511,521) transistors are made use of, claim 8) in the oscillator(see claim 8.) With regards the use in multi-band systems(claim 9), col 6, lines 55-62 describes(VHF-high band, and VHF-band periodic operation). It is to be noted that the high band / low band operation will maintain the oscillator, via the switching device, in the respective band of operation for portions of the time during the VCO cycle to allow for the frequency as desired.(see col. 6, lines 63-col. 7, lines 4).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 3, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura(US ' 766).

The reference by Matsuura discloses a VCO for an integrated PLL application (see figure 2, for the VCO as claimed in claim 1) with LC resonant circuit including varactor(25, with tune input T15, claim 10, and claim 11), capacitors(18,22), switching device (23) , for periodic switching, with control input(T16,17) and inductors in series(19 first inductor and 20 second inductor). It is to be noted that bipolar technology(BJT(511,521) transistors are made use of, claim 8) in the oscillator(see claim 8.) With regards the use in multi-band systems(claim 9), col 6, lines 55-62 describes(VHF-high band, and VHF-band periodic operation). It is to be noted that the high band / low band operation will maintain the oscillator, via the switching device, in the respective band of operation for portions of the time during the VCO cycle to allow for the frequency as desired.(see col. 6, lines 63-col. 7, lines 4).

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The reference by Matsuura does not disclose a LPF in the control input to the VCO or a relationship between the conduction and non-conduction state of the switching device with regards varying the periods of such states.

With regards the latter, i.e., varying the time spent in one of the particular states for providing the high band or low band operation, this would be dependent on how long the multi-band system, in which the oscillator is implemented, required such operation; it is a system requirement that is part of the operation of the system and is determined by the system/user.

With regards the use of a LPF in a PLL with the VCO, this is conventional and allows the error voltage to be free from noise that would cause frequency instability.

In light of the above it would have been obvious for one of ordinary skill in the art at the time of the invention to have recognized that the VCO of Matsuura would be part of a PLL with the required LPFiltering on the input to allow for frequency stability. The amount of time for conduction/non-conduction of the switching device is part of the operation as determined by the system/user for low band/high band operation and thus allows the particular frequency of operation as desired.

Allowable Subject Matter

13. Claims 2,5-7, 12, 14-32, and 34 and 36 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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The examiner could not find fair suggestion in the prior art for the following representative recitations: the at least one second inductor to be periodically switched in parallel to the first inductor(claim 2) or the switching means comprising transistors(claims 5,20). No suggestion is made for connecting the tuning input of the oscillator to the output of a PLL...(claims 12,14) and also, no suggestion for having at least two inductors in the LC circuit with the second inductor periodically switched to be connected in series with a first of the at least two inductors and in parallel with the other...(claim 36)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold M Kinkead whose telephone number is 703-305-3486. The examiner can normally be reached on Mon-Fri, 8:30 am -5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 703-308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Arnold M Kinkead
Primary Examiner
Art Unit 2817

Arnold Kinkead
May 19, 2003